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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,250	02/06/2004	Henry Allen Hill	114096.125 US2 (ZI-39)	8641
23483	7590	08/24/2004	EXAMINER	
WILMER CUTLER PICKERING HALE AND DORR LLP			ROJAS, OMAR R	
60 STATE STREET			ART UNIT	
BOSTON, MA 02109			PAPER NUMBER	
			2874	

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/774,250

Applicant(s)

HILL, HENRY ALLEN

Examiner

Omar Rojas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 28-34 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5, 6, 8, 11-14, 23, 26 and 27 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 7, 9, 10, 15-22, 24 and 25 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "180" has been used to designate both a mirror and a compensating layer. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. Applicant's cooperation is requested in providing the missing patent application numbers alluded to on pages 8, 10, and 17 of the specification.
3. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

4. Claims 8 and 9 are objected to because of the following informalities: In claim 8, the term "pane" appears to be a misspelling. In claim 9, the term " $\lambda_0$ " lacks a clear antecedent basis. Appropriate correction is required.

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5. Claim 12 is objected to because of the following informalities: Claim 12 is written in narrative form. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 1, 2, 5-6, 8, 11-14, 23, 26, and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,597,721 to Hutchinson et al. (hereinafter "Hutchinson").**

Regarding claims 1, 2, and 27, Hutchinson discloses a multiple source array (e.g., as seen in his Fig. 6) comprising: a guided-wave structure including a planar dielectric core 635, a first dielectric cladding layer 632 covering a first side of the dielectric core, and a second dielectric cladding layer 631 covering a second side of the dielectric core that is opposite from the first side; and an array of dielectric-filled, guided-wave cavities 510 in the first dielectric cladding 632 extending transversely from the dielectric core into the first dielectric cladding (see column 8, lines 13-17) and forming an array of apertures through which optical energy (640) that is introduced into the core exits from the core.

Regarding claims 5-6, see Hutchinson at column 21, lines 55-59.

Regarding claim 8, see Hutchinson at column 18, lines 24-27.

Regarding claim 11, see Figure 4 of Hutchinson.

Regarding claim 12, see Hutchinson at column 24, lines 61-67.

Regarding claim 13, light 640 is provided by a source.

Regarding claim 14, see Hutchinson at column 7, lines 13-24.

Regarding claims 23 and 26, see Hutchinson at column 7, lines 65-67.

***Allowable Subject Matter***

8. Claims 28-34 are allowed.

9. Claims 3, 4, 7, 9, 10, 15-22, 24, and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 3, 4, 7, 9, 10, 15-22, 24, and 25, each of the aforementioned claims recite patentable features over the prior art of record. For example, Hutchinson does not teach or suggest having a thickness of his first and second cladding layers (e.g., 631 and 632) such that leakage through the first and second cladding layers represent a negligible loss to the guided-wave modes as recited by claim 3. From the applicant's disclosure, such a limitation appears to have criticality to the claimed invention. Similarly, each of claims 4, 7, 9, 10, 15-22, 24, and 25 also comprise a combination of features not disclosed or suggested by the prior art.

Regarding claims 28-34, the primary reason for allowance of the claims is the inclusion of a multiple source array, comprising the claimed structure, and further providing an array of optical beams as input to an optical measurement instrument during operation as recited by independent claim 28. There is no hint or suggestion in Hutchinson that his invention may operate in this manner. Applicant has disclosed that such operation is useful for near-field microscopy, for example.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pat. Pub. 2004/0067035 discloses an invention similar to that of Hutchinson's. Pat. Pub. 2003/0174992 discloses zero-mode metal clad waveguides for near-field spectroscopy applications. Pat. No. 6,552,805 discloses a sub-wavelength

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aperture array for near-field microscopy. Pat. No. 5,633,972 discloses an imaging optical fiber for near-field microscopy.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Omar Rojas whose telephone number is (571) 272-2357 and whose e-mail address is *omar.rojas@uspto.gov*. The examiner can normally be reached on Monday-Friday (7:00AM-3:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rod Bovernick, can be reached on (571) 272-2344. The official facsimile number for regular and After Final communications is (703) 872-9306. The examiner's RightFAX number is (571) 273-2357.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Omar Rojas  
Patent Examiner  
Art Unit 2874

or  
August 20, 2004

  
**AKM ENAYET ULLAH**  
**PRIMARY EXAMINER**